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ABSTRACT

The development and validation of the Multidimensional-Multiattributional Causality Scales (MMCS) are described. The scales are distinctive because they measure locus of control specific to two goals--achievement and affiliation. Half of the items concern success, and half concern failure experiences. Results of four validity studies with undergraduates demonstrated some discriminant validity of the MMCS. The affiliation scale predicted self-disclosure when conditions called for disclosure. It was related to the demonstration of listening skills in a dyadic interaction, and to recalled early life changes. The achievement scale failed to predict affiliation, but was related to body indications of discomfort during an achievement task, presented in a way that was assumed to be highly disruptive to persons with internal locus of control expectancies. Of the three achievement and affiliation subscales--ability, context, and effort--the latter was a powerful predictor of goal persistence. Except for study four, affiliation was a more frequent predictor for females, while achievement was a more frequent predictor for males. These studies supported the theoretical position that goal specific expectancies override generalized expectancies as predictors of the relevant behavior, when subjects have had experience with the given goal or situation. (The MMCS is appended.) (CP)

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The Multidimensional-Multiattributional Causality Scale: The Development of a Goal Specific Locus of Control Scale

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Runninghead: The Multidimensional-Multiattributional Causality Scale

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Abstract

The development of goal specific locus of control scales is described along with several validity studies. The scales were designed to assess the locus of control for affiliation and achievement and were constructed from items representing each quadrant of Weiner's locus and stability of causal attribution model. Half the items concern success, and half, failure experiences. In a series of four studies the achievement locus of control scale failed to predict the affiliation relevant criteria but was related to body movements indicative of discomfort in the one achievement situation that was investigated. Interference and disruptions during the achievement task had a greater unsettling influence upon achievement internals. Affiliation locus of control, on the other hand, allowed for the prediction of self disclosure when conditions called for disclosure, and was related to the demonstration of listening skills in a dyadic interaction. In each case affiliation internals proved more socially adroit. In addition, affiliation locus of control was related to recalled early life events that had previously been found to be related to more general measures of locus of control.

The Multidimensional-Multiattributional Causality Scale: The Development of a Goal Specific Locus of Control Scale

Over a period of some fifteen years a rather extensive literature has developed pertaining to the ramifications of causal beliefs held by individuals. Within social psychology the work of Heider (1958), deCharms (1968; 1976), Jones and Nisbett (1972) and others have focussed upon causal explanations of events as major determinants of the behavior exhibited during those events. From learning laboratories there has been a marked development of interest in what is referred to as learned helplessness (Seligman, 1975). This research focusses upon the conditions that alter the sense of causality among various organisms, resulting in apathy and depression.

These contributions from social and learning perspectives have added much to the understanding of changes in cognitive and affective states, and have produced methods for altering momentary perceptions of causation. While the former contributions have most often focussed upon transient states, the social learning derived construct, locus of control (Lefcourt, 1976; Phares, 1976) has been used to explore the ramifications of more stable causal beliefs with regard to a range of personality functioning.

The convergent findings from these diverse if analogous research areas allow us to draw certain conclusions such as the following: If an organism, human or otherwise, believes or senses that it has no capability to effect the events in which it is immersed, it becomes less active in the pursuit of shaping those events, and in so doing, becomes progressively demoralized and likely to choose "deviant routes" toward desired incentives. These "deviant routes", in turn, may beget further difficulties which will heighten a person's sense of futility. On the other hand, organisms that generally perceive contingency between their actions and the experiences that may result from those actions behave in a more goal directed fashion, persisting in their pursuits despite various obstacles and adversities encountered along the way.

In brief, there is a considerable literature which implicates the personal perception of causality as an important mediator of responses to a host of life events. One recent advance occurring within social learning derived research with locus of control has been in the assessment of more specific facets of control. The first scale to assess specific aspects of control was the Crandalls' Intellectual Achievement Responsibility scale (Crandall et al., 1965) which allows for the separate measurement of causal perceptions for successes and failures within the sphere of

academic achievement. More recently investigators such as Levenson (1973) and Reid and Ware (1974) have produced variations of the locus of control scale that emphasize different facets of control. The former differentiates among agents of control, luck vs. powerful others; the latter differentiates among concerns to be controlled, system, self, or personal goals.

Most recently, Wallston, Maides & Wallston (1976) and Wallston, Wallston, Kaplan & Maides (1976) have published a health related locus of control scale and Reid and Ziegler (1978) have constructed a measure of perceived control which assesses control expectancies for satisfactions evaluated as being important by elderly persons. These scales are distinctive in that they assess the locus of control with respect to rather specific areas of concern, and afford good predictions of behavior associated with those specific goal areas.

At the same time that newer trends are discernable within the research focussed upon locus of control, there have been advances in research involving attribution processes. Weiner et al. (1972) have helped to create a more differentiated conception of causation such that the simple discrimination between internal and external sources of outcomes does not seem adequate for some purposes.

Weiner differentiates between variable and stable attributions, as well as internal and external causes. A variable attribution can lead to behavioral predictions opposing those of a stable attribution, even though both the variable and the stable attributions could be to an internal cause. For example, Dweck (1975) found that ability attributions (stable internal characteristics) result in less effort to alter failure patterns than do attributions to more variable internal characteristics such as effort. Though both causes are internal one seems facilitative of goal striving behavior, the other constraining.

It is the purpose of this paper to present some background and validational data concerning a measurement device that has been designed to include each of the above developments. Our scales are goal specific, the items balanced between success and failure experiences, and our causal attributes balanced for internality-externality, and stability-instability.

The advantages that may accrue from such goal and attribution specific measures of locus of control are forseeable within social learning theory. Within that theoretical orientation specific expectancies are assumed to be more powerful predictors of criteria related to those expectancies than are generalized expectancies. Likewise, goal specific measures of locus of control should be better

predictors of behavior associated with their respective goals than generalized locus of control measures. On the other hand, the former should allow for less generality than the latter as evidenced in lesser correlations with a range of other, less relevant goals. Similarly, specific causal attributions should afford more predictive power than general statements of causality insofar as the former provide a greater number of variables with potential for effecting goal directed activity.

Given the research success that has been obtained with the locus of control construct the trend toward the development of more specific measuring devices could have been anticipated. As concern with particular problems such as health direct researchers' efforts, the construction of measures to enhance the suspected relationship between locus of control and those criteria is a natural development that should provide further test of the construct's utility.

Scale Description

At present we have constructed two twenty-four item Likert scales, one concerning achievement, and the other affiliation. These two goal areas were selected because of their relevance for university undergraduates. There is no reason, however, why equivalent scales could not be constructed for persons at other stages and positions in life where love and affection, work, or domestic concerns

are more salient issues. Each scale is comprised of twelve items that concern success and twelve that concern failure experiences. Each set of twenty-four items is also divided equally via four attributions such that there are six stable internal items focussing upon abilities and skills, six unstable internal items involving effort and motivation, six stable external items focussing upon contextual characteristics, and six unstable external items that focus largely upon fortuitous happenstance. From these various subscales it is possible to derive a host of measures. The largest scores, the total externality scores, would consist of the agreements with external attributions and the denial of internal attributions. The possible range of scores is between 0 and 96, the Likert rating for each item being 0 to 4. Collins et al. (1971, 1973) found that the opposing items in Rotter's scale did not generate high negative correlations when each forced choice item was responded to as a separate and distinct item. Collins' data indicated that scores on internality and externality may be independent. The MMCS, therefore, allows for separate measurement of internality and externality by 12-item scales within each goal area, with scores ranging from 0 to 48.

The smaller six item scales with ranges between 0 and 24 allow for the assessment of beliefs regarding specific attributions. In Table 1, the achievement and affiliation

locus of control scale items are presented, grouped according to the four causal attributions.

Insert Table 1 About Here

The items were constructed rationally to fit within each subset and were subsequently refined by a process similar to that described by Jackson (1970) by which he developed his Personality Research Form. With each administration of the scale those items which reduced the alpha reliability coefficient within each subset were altered until they contributed positively to that subset. Likewise, items that were more highly related to other subsets than their own were altered until correlations between items within any subset were higher than with items in other subsets.

Measures of internal consistency have been obtained from several samples. Cronbach alphas have been found to range between .58 and .80 for achievement, and .58 and .81 for affiliation locus of control scales. Achievement internality (ability and effort) ranges between .50 and .77 whereas achievement externality (context and luck) has ranged between .66 and .88. The equivalent alpha coefficients for affiliation range from .70 to .84, and from .62 to .81. Corrected Spearman-Brown split half

correlations range from .67 to .76 for achievement and .61 to .65 for affiliation.

Given the rather heterogeneous nature of the larger scales these magnitudes are considered reasonable. Test-retest correlations have also been obtained from several samples, the interval lapse ranging from one week to four months. Test-retest correlations for the achievement locus of control measure range between .51 and .62; for the affiliation scale the correlations have ranged from .50 to .70. The achievement and affiliation scales produce an average correlation with each other in the .20's, which, while statistically significant given N's from 100 to 300, reveals the divergence that was built into the scales. In each case where subscales have produced lesser alphas or poor retest reliability, items have been reworded or completely revised. The resulting reliability coefficients from our fourth revision administered to 241 undergraduates were as follows: Cronbach alphas for achievement (.61), for affiliation (.61) and for total locus of control (.77). The respective Spearman-Brown correlations were .77, .70, and .79.

The average correlation between achievement items and the achievement locus of control scale was r = .31 (N = 241) while these same achievement items correlated, on the average, r = .10 with the affiliation scale. Similarly,

affiliation items correlated, on the average, r = .31 with the affiliation locus of control scale, but correlated only r = .09 with the achievement scale. These data support the discriminative validity of the items selected for each scale. The relatively low magnitude of the average item-scale correlations can be attributed to two sources: (a) Some items are in need of further refinement; and (b) Each of the 24-item scales comprises measurement of diverse dimensions such as success/failure, internality/externality, and stable/unstable.

Insert Table 2 About Here

In Table 2 the intercorrelations between the six item subscales in each of the two goal specific measures are presented. These data, drawn from a recently assessed set of subjects, are highly similar to those obtained with previous samples on earlier forms of these tests with the exception of the unexpected positive correlation between achievement ability and luck attributions (r=.30, p<.02). Though it is tempting to conjecture that ability may be construed as a fortuitous gift thus accounting for this relationship, in previous samples this relationship has not been evident (r=-.13,ns,N=282).

In Table 3 there is a presentation of normative data for each of the subscales and total scales collected from another sample of 200 subjects, subdivided by sex. Comparisons between males and females were drawn for each of these subscales. While the only scale differences shown

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Insert Table 3 About Here

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here that reached statistical significance between the sexes were the affiliation luck, and affiliation success measures, a few differences were obtained on the smaller (three-item) subscales that are not included in the table. The two affiliation differences shown do indicate, however, that males are more apt to attribute affiliation outcomes to luck (t = 2.63, $p < .009$, df = 198) and attribute successes in affiliation outcome to more external sources (t = 2.03, $p < .05$, df = 198) than do females. The only sex difference to be noted in the achievement scales occurred in the small three-item subscales concerned with ability and effort attributions for failures. In congruence with the research and theorizing of Carolyn Dweck (1976), females were more apt to attribute achievement failures to ability than were males (t = 2.30, $p < .02$, df = 198) while males tended to attribute achievement failures to effort more than did females (t = 1.72, $p < .10$, df = 198). Given the large

number of comparisons, however, and the small number of items in each of these subscales, these data require replication before their reliability can be assumed.

The MMCS scales have been compared with the Rotter I-E scale and correlations have been found to be positive, significant, and of variable magnitudes, rs ranging from .23 to .62 with achievement and .37 to .55 with affiliation locus of control scales.

The MMCS has also been evaluated opposite the Crowne-Marlowe (1964) need for approval scale to ascertain the social desirability element in our scales. Some degree of relationship was anticipated as Cone (1971) and Stern & Manifold (1977) report that internality is commonly evaluated more positively and is assessed as the more desirable than is externality.

With a sample of 66 undergraduate students, the need for approval was found to be associated with the achievement (r = -.33, p < .01) but not with the affiliation (r = .01) scales. The achievement-need approval correlation derived largely from the relationship between achievement externality and need approval (r = -.30, p < .02); the internality-need approval relationship was nonsignificant (r = .11). The effects were, in general, of higher magnitude among males than among females. Those scoring high in the

need for approval were more apt to deny the external attributions for achievement.

These results indicate that, as other writers have suggested, social desirability is a contaminating influence in the assessment of locus of control. While the magnitudes of the relationships are such that common variance ranges only between nine and 11 per cent, the achievement locus of control scale can be said to suffer from some social desirability effects. Since the construction of the scales allows for an examination of the source of these relationships it is also possible to note that it is the achievement-externality scales that are found to have the greatest loadings of social desirability.

Validity Study 1

Bryant and Trockel (1976) have reported that recalled affectively significant life changes from the preschool years, assessed by the Coddington life changes measure (Coddington, 1972), are related to statements of external control in adulthood as measured by Rotter's locus of control scale. Similar findings have been reported both by Nowicki (1978) and by Hetherington (1972). In the latter investigation, girls from father-absent homes, especially where death or divorce had occurred early in the girl's lives, were found to score more external on the personal control factor of Rotter's scale than did girls from intact

homes. Since parental death or divorce ranks high on the Coddington measure, Hetherington's findings are supportive of Bryant and Trockel's.

Given that the preschool years should have more relevance to social attachments and affiliation than to achievement, it was predicted that the relationship between preschool life changes and locus of control should be most pronounced when using the affiliation locus of control scale. While achievement locus of control scores may also be related to preschool life changes, the magnitudes should be less than for the affiliation scales.

With a sample of forty-four university undergraduates, Davies (1977) found significant relationships between both the affiliation (r = .34, p < .05) and achievement (r = .29, p < .06) locus of control scales and recalled negative life changes in the preschool years. Most pronounced was the correlation between affiliation-ability and preschool negative events (r = -.52, p < .001). The equivalent for the achievement-ability scale was r = -.26, (p < .10). The more undesireable events were recalled from preschool years, the less likely were subjects to attribute affiliation outcomes to social ability, the more stable internal cause. This finding was particularly marked among females for whom r = -.72, p < .001, N = 21. (The equivalent for achievement ability was r = -.27, n.s.)

With the MMCS we have found replication for Bryant and Trockel's findings, though our results were most marked for those events that were clearly recalled as negative. The former investigators focussed upon events recalled as having affective implications, whether positive or negative. With our sample, however, the absence of variability with regard to positive affective events made the measure of total-affect laden events less useful than the negative-affect events measure alone a finding similar to that reported by Sarason, Johnson, and Siegel (1978). Nevertheless, the high magnitude results are encouraging and indicate that there is a relationship between affiliation locus of control and recalled negative life events during the preschool years. Given that Bryant and Trockel obtained their findings with a female sample, and that our results were most prominent among females, this conclusion may be limited to or be more relevant to females than to males.

Validity Study 2

The first experimental study conducted with the MMCS focussed upon behavior exhibited during an achievement relevant task. The task was similar to one that had been employed in a previous investigation (Lefcourt, Hogg, Struthers, & Holmes, 1975), in which sets of anagrams were administered which progressed from relatively simple to unsolvable. In the previous study subjects worked under conditions that have been found to be optimal for internals, with an absence of social distractions, and self-pacing within time limits. Under those conditions externals were found to display more frequent signs of distress as was evidenced in their body movements. Adaptors, fidget-like motions where hands touch various body surfaces (Ekman, 1968) and shifts of posture had been more commonly observed among externals, and had increased with the incidence of failure experiences among internals and externals in the Lefcourt et al. (1975) investigation.

In the current study, in contrast, subjects were seated close to the examiner who held a stopwatch to time the subject, removing each card after a designated number of seconds. In contrast to the previous study subjects were hurried, harried and intruded upon by the presence of the examiner. Given these conditions it was our hypothesis that persons who were internal for achievement would give

evidence of greater discomfort than would those who were external for achievement, and that the affiliation locus of control would be of less pertinence to the criteria in question.

In all there were 41 subjects divided by median splits on the respective scales. There were 22 subjects classified as external for achievement, 19 as internal, and 20 as external for affiliation versus 21 as internal. As in the previous study all interactions were recorded on videotape and were subsequently rated with the same high degrees of inter-rater reliabilities.

The data offered some support for the hypotheses. The percentage of time that subjects exhibited adaptors throughout the anagram procedure was related to achievement locus of control scores. A main effect ($F = 5.17$, $p < .05$, 1/39) was found for achievement locus of control (I ach M = 11.96, E ach M = 6.84). In addition there was a significant interaction with stage of the task (simple - intermediate - difficult - insoluble; $F = 3.33$, $p < .05$, 2/78). Achievement internals displayed a stable slightly increasing mean percentage of time that they engaged in adaptors as the task increased in difficulty (Ms = 11.13, 12.68, 12.07), but achievement externals exhibited a decrease in adaptor durations as the task proceeded (Ms = 9.26, 6.39, 4.86).

When posture shifts were examined, one simple main effect was obtained. Internals for achievement shifted their postures a greater percentage of time than externals for achievement ($F = 6.68$, $p < .025$, 1/39, I ach $M = .49$, E ach $M = .23$). No interaction with stage of the task was found.

In contrast, the locus of control for affiliation proved to be totally unrelated to the display of adaptors ($F = .15$, 1/39), and produced a reversal of the main effect obtained for the achievement locus of control scale with posture shifts. Externals for affiliation engaged in more posture shifts ($M = .48$) than internals for affiliation ($M = .25$; $F = 4.77$, $p < .05$, 1/39). While it is premature to speculate it is tempting to suggest that this finding may derive from responses to the more socially intrusive conditions that were evident in this task, externals for affiliation responding with greater discomfort to the very proximity of the examiner.

When each of the four attributions were examined opposite the criteria, it was found that achievement-effort attributions accounted for the largest effects. None of the other three factors produced significant results by themselves. Achievement effort alone, however, did produce significant results with regard to adaptors ($F = 4.03$, $p < .05$, 1/39) and posture shifts ($F = 3.39$, $p < .10$, 1/39).

It should be noted that when the sample was separated by sex, it became apparent that the major contribution to the results derived from the male sample. For the sixteen male subjects correlations between the Achievement locus of control and adaptors made during each section of the task were as follows: $r = -.27$, n.s. during easy anagrams; $r = -.51$, $p < .05$ during intermediate difficulty anagrams; $r = -.61$, $p < .01$ during most difficult anagrams. For the twenty-five females the corresponding correlations were -.01, -.28, and -.21, none of which were statistically significant.

One final comparison of note concerns results with Rotter's I-E scale. With total I-E scale scores there was no apparent relationship with adaptor displays or posture shifts. Thus these results suggest that among males, the more internal were the subject's expectancies specifically for achievement, the more likely the subjects were to exhibit signs of discomfort during the task, particularly during the more difficult sections of that task when failure became increasingly probable.

Validity Study 3

This study was the first of two investigations in which we attempted to assess involvement and social competence exhibited in social interactions as a function of the locus of control for affiliation.

In the first study subjects were brought into the lab in pairs. Each pair was composed of same sex partners who were strangers to each other prior to the study. In all there were 30 males and 28 females, or 29 pairs of subjects.

The subjects were asked to speak with each other in response to a prearranged set of topics that were presented on a tape recorder. Each subject alternated in the roles of speaker and listener. Subject A was instructed to speak first in response to his first topic question, and became the listener next when subject B received instructions with regard to the next topic. Each subject had three topics to discuss which became progressively more personal in nature.

The first topics dealt with feelings about social gatherings and studies; the second topics concerned anxieties and fears, self esteem and doubts, and the third topic for each subject involved "something you would like to change about yourself". In essence, the topics increasingly demanded personal responsiveness and self disclosure.

Our hypothesis was that as the demands increased for self disclosure subjects who were more internal with regard to affiliation would be more apt to respond accordingly since they would feel more in control of the consequences of self disclosure. Those who were more external with regard to affiliation should be less responsive to the shifting demands on the other hand, avoiding the involvement with the

partner which might be threatening to persons with little perceived control over their affiliative outcomes.

Self disclosure duration was assessed for each topic response on a scale of one to five, where one point was assigned for "no periods of high self disclosure" and five points were given for "consistently high self-disclosure throughout discussion". The ratings for each topic, scored separately for males and females, produced reliability coefficients between two raters ranging between .74 and .94 with most rs in the mid-.80s or better.

The principal test for the hypothesized increased self-disclosure, among affiliation-internal subjects, was the F ratio for the interaction of locus of control with discussion topics. This interaction was borderline in significance ($F = 2.97$, $df = 2/94$, $p < .10$), and reflected a tendency for affiliation internals to increase in their self-disclosure from the first to the third topics (M's = 1.73, 3.00, 3.54) more than did affiliation externals (M's = 1.88, 3.08, 2.96).

There were, however, significant main effects for affiliation locus of control upon self-disclosure. In view of differences between sexes, and between different causal attributions within the affiliation scale, the results will be presented in terms of correlations between given attribution scores and self-disclosure.

Among females, affiliation effort produced correlations of a sizeable magnitude with self disclosure given to the second (r = .42, p < .05, N = 28) and third topics (r = .57, p < .01, N = 28). The overall affiliation locus of control scale, however, only produced an r = -.33, (p < .10, N = 28) during the third topic. Thus while affiliation internality is associated with self disclosure, it is the affiliation-effort subscale that accounts for most of the predictive power. Another set of strong findings was evident when only affiliation-success was considered. There a high score indicates externality for affiliation successes, the correlations between affiliation success and self disclosure were r = -.51, (p < .01, N = 28) for the first topic, r = -.36, (p < .10) for the second topic, and r = -.54, (p < .01) for the third topic.

In each case the equivalent correlations and ANOVAs for achievement fail to reach statistical significance and the results for males while in the same direction also fail to attain significance. In this study then, some evidence is found in support of the hypothesis concerning self disclosure. However, it is largely the effort subscale which accounts for the findings, and primarily the attributions regarding success outcomes that afford strong predictions of disclosures. Males do not seem to be as predictable for criteria such as disclosure which may be

sex-role antagonistic. A second point of interest inheres in the finding that only internal attributions predicted self disclosures. It would seem that internal and external control items are not necessarily related to each other. This conclusion would be in agreement with the earlier cited findings by Collins et al. (1971, 1973).

Validity Study 4

In our second social competence focussed investigation the target behaviors in question were the presentation of cues by listeners that could facilitate the verbal productivity of speakers.

In this study 20 female and 22 male undergraduates were assembled in small groups, each containing from four to six subjects of the same sex. After completing the MMCS they were given group instructions adapted from the "Group Assessment of Interpersonal Traits" (Goodman, 1972). Each subject wrote down two statements about what they would like to change about themselves. Subsequently a pair of subjects was taken into a separate lab room to engage in a three minute dyadic interaction. Subject A was designated the listener with instructions to facilitate the communication of subject B, who as the speaker, was asked to read and discuss one of his or her written statements. After the interaction, the speaker completed a six item questionnaire concerning the speaker's comfort while speaking, his

assessed intimacy level during the interaction, and the degree of interest and warmth that he felt the listener had displayed. Each subject acted as a listener first with one partner, and then as a speaker with another partner. During each interaction the listener was videotaped by concealed equipment while an audiotape recording of the interaction was made with the subjects' knowledge.

The videotaped listener's gaze behavior and positive head nodding (non-verbal equivalent of m-hmm), and the speaker's speech duration and ratings on the intimacy questionnaire comprised the major data in this study. As in previous investigations with non-verbal behaviors interrater reliabilities produced correlations exceeding .90.

The results were first examined opposite the total affiliation locus of control scale. Using a median split to form groups, affiliation internals were found to spend a greater mean percentage of their interaction time (9.6%) nodding positively when acting as a listener than did affiliation externals (M = 6%, t = 1.73, $p < .05$, df = 40). Gaze behavior, the looking at the speaker's face, was unrelated to the MMCS affiliation scores.

The speaker's responsiveness to the listener, however, was related to the listener's affiliation locus of control scores. Speakers paired with affiliation internals spoke for a mean 56% of the interaction period, while speakers

paired with affiliation externals spoke for an average of only 43.6% of the time period (t = 3.14, $p < .005$, df = 40). In addition, speakers paired with affiliation internal listeners felt more comfortable and rated their listeners as more interested and accepting on the post-interaction questionnaire (M = 29.2) than affiliation external listeners (M = 25.8; t = 2.59, $p < .01$, df = 40).

In order to determine the specific attributions that may have mediated these significant effects, a correlational analysis was performed with the subscales of the affiliation scale. The sexes were considered separately for this analysis. Among males, nodding while listening was positively correlated with the endorsement of affiliation ability items (r = .62, $p < .01$, N = 22). Speech duration among male speakers was, in turn, negatively related to the listener's endorsement of affiliation-context items (r = -.51, $p < .02$, N = 22) and positively associated with listener's affiliation effort attributions (r = .43 $p <$ .05). As well, the speaker's assessment of the intimacy of the interaction correlated positively with listener's effort attributions (r = .44, $p < .05$). Thus, male listeners' attributions of affiliation outcomes to ability, effort, and situational context were related to the speaker's productivity and rated comfort, and in some degree with

nodding which may indicate greater acceptance on the listener's part.

In contrast to these results, the achievement locus of control measure produced no significant relationships with the social criteria. Also, among the female pairs no significant relationships were found with the affiliation or achievement scales. The only findings for females were that externality for success in the affiliation area tended to be negatively related with nodding when in the listener role ($r = -.37$, $p = .10$) and was also negatively associated with speaker speech duration ($r = -.38$, $p < .10$). Achievement locus of control was not related to the social criteria at all among the female sample.

Study 4, then, offers some support for the assumed interpersonal significance of affiliation locus of control. However, the effects were largely confined to the male sample. Whether our failure to observe similar findings among females derives from their higher base rates for listening behaviors is a question that future research may address. At present, however, it can be concluded that our goal specific measure does afford some prediction of affiliative behavior.

Discussion

In each set of data evaluated against the MMCS scales, the results obtained provide some evidence for the

discriminant validity of the goal specific measures. The affiliation locus of control scale allowed for the prediction of social interaction criteria and was correlated with recalled life changes that occurred in the preschool years when achievement was of lesser salience than affiliation. On the other hand, the achievement locus of control scale afforded prediction of discomfort during an achievement task that was presented in a way that was assumed to be highly disruptive to persons with internal control expectancies. Neither scale demonstrated utility in predicting the criteria in the other, less related realm.

Within these studies, moreover, some tentative evidence was found regarding the salience of particular subscales. The effort subscales of both the achievement and affiliation scales often accounted for a greater portion of the variance within particular relationships. As Dweck (1973, 1975) has indicated in her research, it is the belief in effort as the cause of outcome that is most salient in predicting persistence after goals and resistance to learned helplessness. Conceivably, beliefs regarding the efficacy of effort are the most important factors for predicting involvement in the pursuit of given goals, and our data would tend to support this position in most cases.

A second point to be considered is the value of goal areas for each sex. Females were more often predictable

from MMCS scores pertaining to affiliation, with the exception of the fourth study, whereas males were more often predictable via their achievement scale scores. Whether these findings reflect difficulties with the scales, the criteria or their relationship with each other were not assessable by the present data. However, that sex differences can be observed in the relationships between locus of control scores and given criteria is continuous with previous research with the locus of control construct. Females have more often been unpredictable from scores obtained on Rotter's locus of control scale (Lefcourt, 1976).

It should be obvious that research validating these goal-specific measures of locus of control is at a relatively early stage of development. Further refinement of the scales is continuing, currently assessing item endorsement frequencies, item-scale correlations, and relationships with other personality measures as criteria for improvement of their psychometric characteristics. However, the initial evidence reported in this paper offers some support for the utility of goal specific locus of control scales. While we have found value from our differentiations with regard to success and failure in only two instances (when achievement failure outcomes were found to differ between males and females, and in the relationship

with self disclosure), there would seem to be good potential use for such contrasts. Depression, for example, would seem to be more likely if persons attributed positive outcomes to external attributes and negative outcomes to internal attributes, as has been suggested by Kuiper (1978). Such conjectures, however, await empirical test. The contributions from attribution researchers such as Weiner (1972) and Dweck (1975) that were incorporated in the development of the MMCS reveal their value in the secondary analyses when specific attributes are evaluated opposite given criteria. Conceivably, we will eventually be able to derive more specific hypotheses from the use of given configurations of attributes. Ability attributions for successes and effort attributions for failures may prove to have far different consequences than their opposites as Dweck has been suggesting in her comparisons of male and female achievement behaviors.

As a final point it should be noted that the MMCS measures were not constructed to replace more general scales such as Rotter's locus of control scale. The latter assesses generalized expectancies, and users of the scale can still expect to find empirical relationships with criteria that are relatively novel for their subjects. As Rotter (1954, 1972) has stated in his social learning formulations, specific expectancies (goal specific

expectancies in this case) will take precedence over generalized expectancies as predictors of the relevant behavior when subjects have had experience with the given goal or situation. Our present studies support that theoretical position in that we succeeded with our specific goal focussed predictions, where both general scales and scales for unrelated goals have failed to predict the particular criteria.

It should be noted, however, that in our use of specific attributions we have found some support for those researchers such as Collins (1974) who have contended that internal and external items are not necessarily negatively correlated. Thus, it is possible that persons can endorse both internal and external control items revealing acceptance of varied influences upon their behavior. Persons scoring towards the highest and lowest 25% of a distribution, then, are to be understood as being highly internal or highly external since they make positive assertions in one direction and deny negative assertions in the other. Hopefully, the development of goal specific scales such as the MMCS will encourage others to engage in the scale construction process where investigators wish to utilize the locus of control construct for specific samples or for evaluating particular problem areas. The present measures were designed to assess achievement and affiliation

locus of control because these two areas of concern are prominent for the young university student. Hopefully, locus of control scales relevant to love and affection, parenting, work and retirement etc. will eventually be constructed so that it may prove possible to ascertain the utility of the locus of control construct with regard to a range of important human problems.

Footnotes

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TABLE 1

MMCS Items Grouped According to Goal Specific Subscales.

I. Achievement

Ability

11. The most important ingredient in getting good grades is my academic ability.

27. I feel that my good grades reflect directly on my academic ability.

43. When I get good grades, it is because of my academic competence.

3. If I were to receive low marks it would cause me to question my academic ability.

19. If I were to fail a course it would probably be because I lacked skill in that area.

35. If I were to get poor grades I would assume that I lacked ability to succeed in those courses.

Effort

9. In my case, the good grades I receive are always the direct result of my efforts.

25. Whenever I receive good grades, it is always because I have studied hard for that course.

41. I can overcome all obstacles in the path of academic success if I work hard enough.

1. When I receive a poor grade, I usually feel that the main reason is that I haven't studied enough for that course.

17. When I fail to do as well as expected in school, it is often due to a lack of effort on my part.

33. Poor grades inform me that I haven't worked hard enough.

Context

6. Some of the times that I have gotten a good grade in a course, it was due to the teacher's easy grading scheme.

22. Some of my good grades may simply reflect that these were easier courses than most.

38. Sometimes I get good grades only because the course material was easy to learn.

14. In my experience, once a professor gets the idea you're a poor student, your work is much more likely to receive poor grades than if someone else handed it in.

30. Often my poorer grades are obtained in courses that the professor has failed to make interesting.

46. Some low grades I've received seem to me to reflect the fact that some teachers are just stingy with marks.

Luck

8. Sometimes my success on exams depends on some luck.

24. I feel that some of my good grades depend to a considerable extent on chance factors, such as having the right questions show up on an exam.

40. Sometimes I feel that I have to consider myself lucky for the good grades I get.

16. Some of my lower grades have seemed to be partially due to bad breaks.

32. My academic low points sometimes make me think I was just unlucky.

48. Some of my bad grades may have been a function of bad luck, being in the wrong course at the wrong time.

II. Affiliation

Ability

15. It seems to me that getting along with people is a skill.

31. Having good friends is simply a matter of one's social skill.

47. It is impossible for me to maintain close relations with people without my tact and patience.

7. It seems to me that failure to have people like me would show my ignorance in interpersonal relationships.

23. I feel that people who are often lonely are lacking in social competence.

38. In my experience, there is a direct connection between the absence of friendship and being socially inept.

Effort

13. Maintaining friendships requires real effort to make them work.

29. In my case, success at making friends depends on how hard I work at it.

45. If my marriage were to succeed, it would have to be because I worked at it.

5. If I did not get along with others, it would tell me that I hadn't put much effort into the pursuit of social goals.

21. When I hear of a divorce, I suspect that the couple probably did not try enough to make their marriage work.

37. In my experience, loneliness comes from not trying to be friendly.

Context

2. My enjoyment of a social occasion is almost entirely dependent on the personalities of the other people who are there.

18. Some people can make me have a good time even when I don't feel sociable.

34. To enjoy myself at a party I have to be surrounded by others who know how to have a good time.

10. No matter what I do, some people just don't like me.

26. Some people just seem predisposed to dislike me.

42. It is almost impossible to figure out how I have displeased some people.

Luck

4. Making friends is a funny business; I sometimes have to chalk up my successes to luck.

20. In my experience, making friends is largely a matter of having the right breaks.

36. If my marriage were a long, happy one, I'd say that I must just be very lucky.

12. Often chance events can play a large part in causing rifts between friends.

28. I find that the absence of friendships is often a matter of not being lucky enough to meet the right people._

44. Difficulties with my friends often start with chance remarks.

Note. All items scored 0 = disagree, 4=agree.
First 3 items of each set of 6 refer to success,
last 3 items refer to failure experiences.

Table 2

Intercorrelations among Subscale Scores within each Goal Area[a]

	Achievement				Affiliation			
Attributes:	Effort	Ability	Situation	Luck	Effort	Ability	Situation	Luck
Effort		.06	-.06	-.24*		.63***	.08	.18
Ability			.04	.30**			.18	.19
Situation				.48***				.53***
Luck								

[a] $n = 68$

*$p < .05$

**$p < .02$

***$p < .001$

Table 3

Normative Data for the MMCS Affiliation and Achievement Scales

		Male (N=102)		Female (N=98)	
		M	SD	M	SD
I. Achievement					
A.[a]	ability	14.37	3.43	14.99	3.53
	effort	18.30	2.97	18.09	3.77
	context	13.38	3.95	12.62	3.72
	luck	11.96	4.28	11.55	4.55
B.[b]	Internality	32.68	4.98	33.08	5.34
	Externality	25.34	6.53	24.17	7.09
	Success*	18.17	4.79	17.60	5.23
	Failure*	22.50	5.69	21.49	6.10
[c]	Total Achievement	40.67	8.03	39.09	9.08
II. Affiliation					
A.[a]	ability	13.37	4.39	13.15	3.65
	effort	13.06	4.46	13.59	4.28
	context	13.89	3.61	14.50	3.73
	luck	8.73[d]	4.07	7.23[d]	3.95
B.[b]	Internality	26.43	7.71	26.74	6.68
	Externality	22.62	6.40	21.73	6.26
	Success*	21.07[e]	5.02	19.65[e]	4.84
	Failure*	23.12	6.27	23.34	5.21
[c]	Total Affiliation	44.19	8.91	42.99	8.25

a - 6 item scales (0-24) - higher scores indicate higher endorsement of attribution
b - 12 item scales (0-48)
c - 24 item scales (0-96)
d - $t = 2.63$, $p < .01$ (sex difference)
e - $t = 2.03$, $p < .05$ (sex difference)
* - the higher the score, the more external